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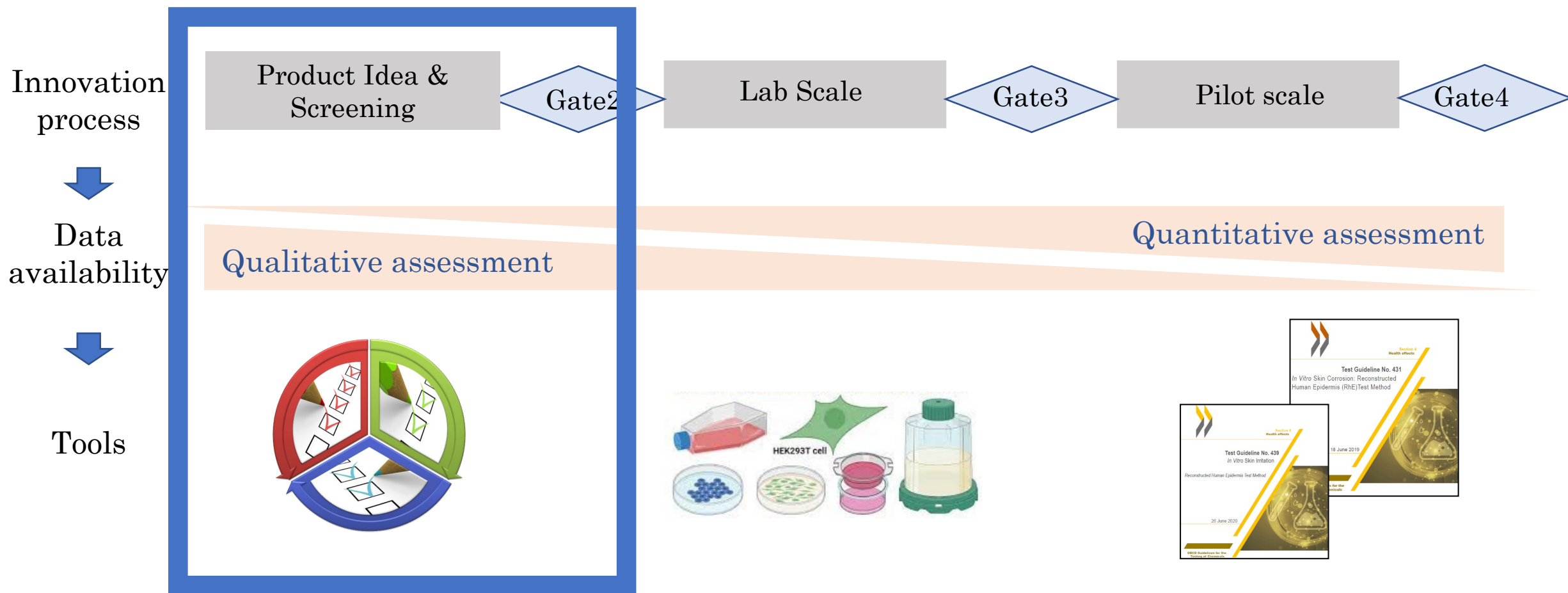
# SSbD Training 2 Introduction to Tier 1 Assessment

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March 2025

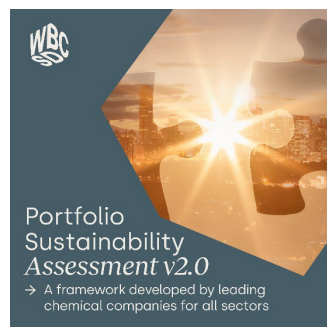


# Tier 1 assessment





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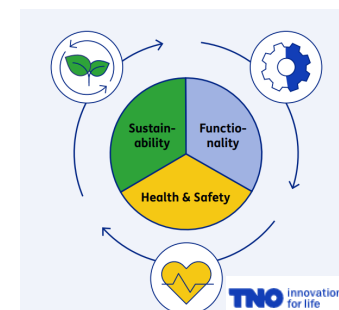
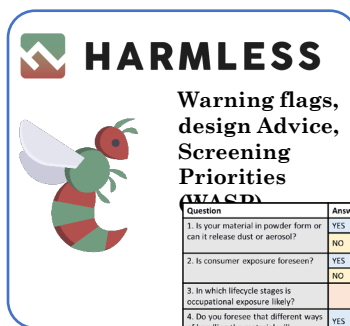
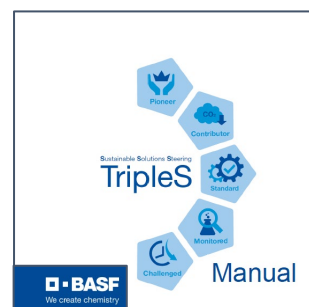


Social Life Cycle Metrics for Chemical Products  
A guideline by the chemical sector to assess and report on the social impact of chemical products, based on a life cycle approach



wbcscd

November 2018

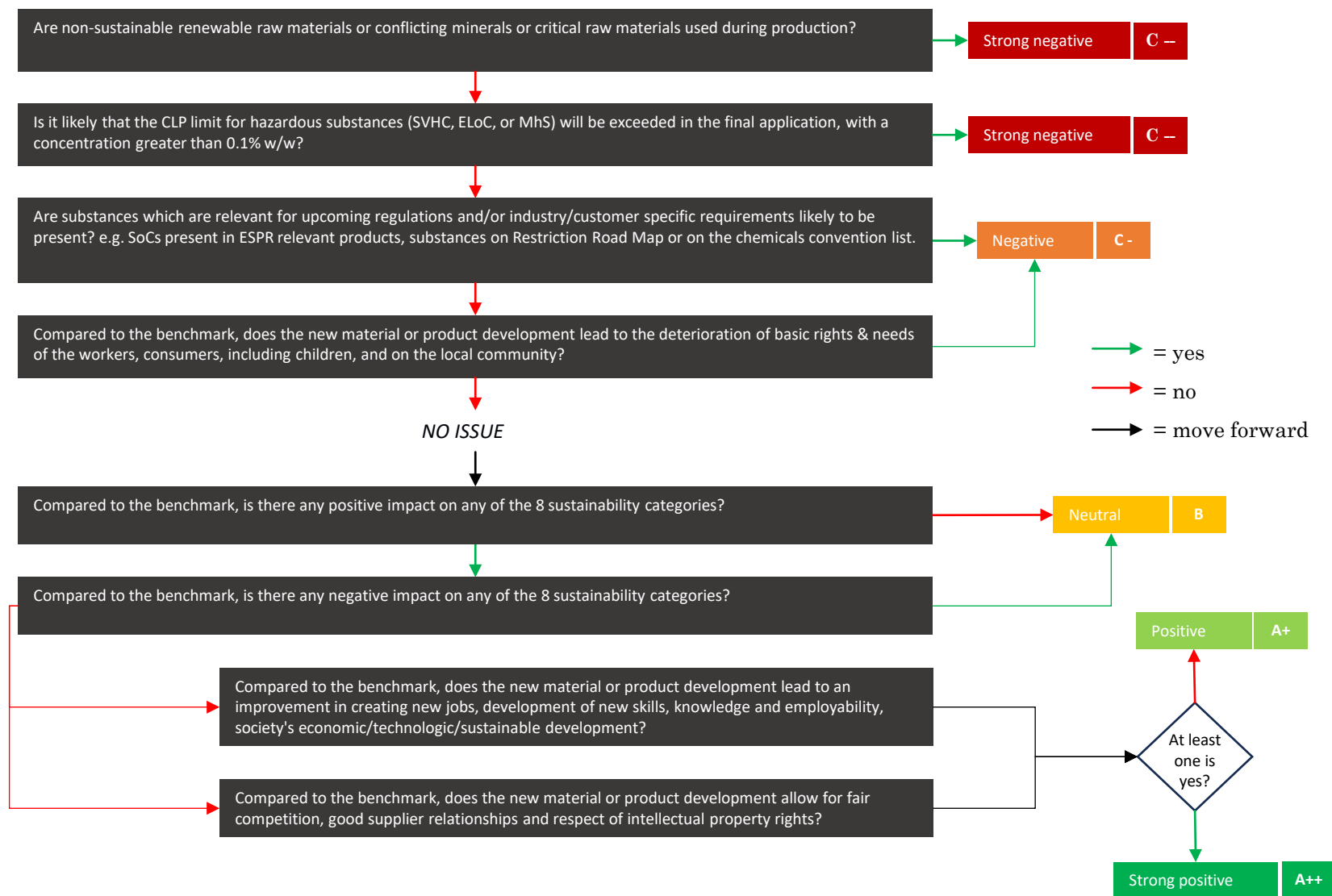


TNO's framework for enabling Safe & Sustainable Innovation





# Tier 1 assessment decision scheme





# Points of attention

- Not “show-stoppers”
- Make innovators aware of the potential SSbD issues
- Each PoA triggers a higher tier assessment

→ = yes  
→ = no  
! = point of attention







# Tier 1 assessment excel tool

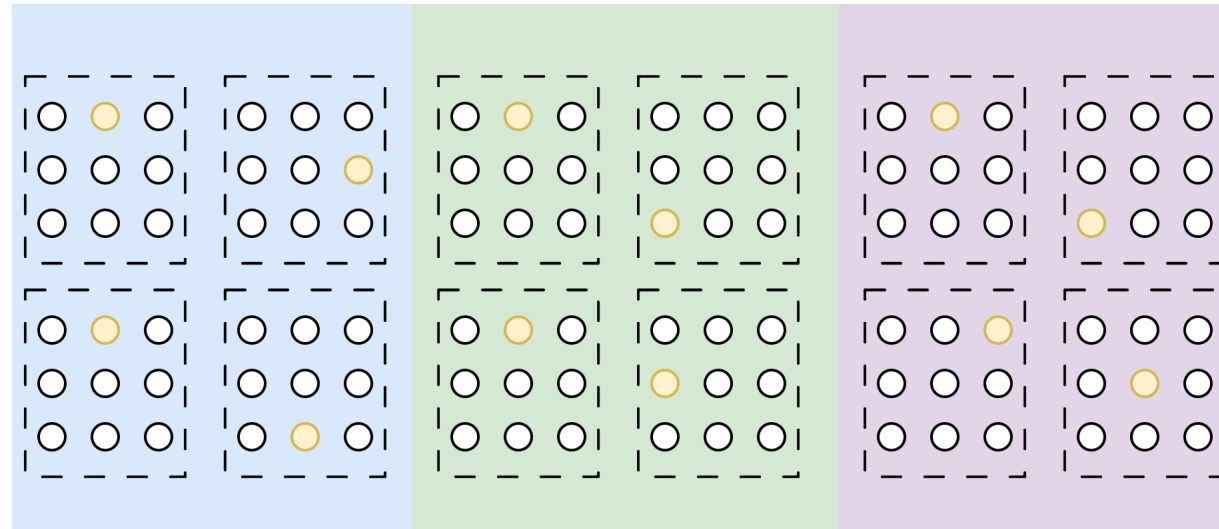
Dimension		Reference	Alternative 1	Alternative 2	Alternative 3
<b>1: Hazard</b>					
1.1	Is the human and/or environmental release of hazardous substances (Substances of very high concern, Equivalent level of concern, Substances of concern, or hazard band C, D, or E) likely at any stage of the product's life cycle?	Yes	Unknown	No	No
1.2	Is it likely that the CLP limit for hazardous substances will be exceeded in the final application, with a concentration greater than 0.1% w/w?	Unknown	No	No	No
1.3	Are substances which are relevant for upcoming regulations and/or industry/customer specific requirements likely to be present? e.g. SoCs present in ESPR relevant products, substances on Restriction Road Map ( <a href="https://ec.europa.eu/docsroom/documents/49734">https://ec.europa.eu/docsroom/documents/49734</a> ) or on the chemicals convention list.	No	Yes	No	Unknown
<b>2: Release and exposure</b>					
2.1	Do you identify the potential use/applicability of the final material/product?	No	Yes	Yes	Unknown
2.2	At any life cycle stage, is your material or product in powder form and/or is it possible that dust or aerosols are released?	No	No	Yes	No
2.2a	If yes, does your material contain rigid, persistent fibres (length > 5 µm and diameter < 3 µm)?	Unknown	Unknown	Unknown	No
2.3	Is your material, product multi-component?	Yes	Unknown	No	Yes
2.4	At any life cycle stage, is your material or product in a liquid/vapour (with vapour pressure > 1 Pa) and/or is it possible that vapours are released?	No	Yes	No	Yes
2.5	Is there a possibility of substantial material breakdown during production, use and/or end of life?	No	Yes	No	Yes
2.6	Is there a possibility of (in)direct contact with worker and/or consumer skin?	No	No	Yes	Yes
2.7	Are there any exposure prevention measure(s) applied at the workplace?	No	Yes	No	Unknown
2.8	Is there a possibility of oral consumer exposure?	Unknown	Unknown	Unknown	Unknown
<b>3: Environmental impact</b>					
3.1	Are non-sustainable renewable raw materials or conflicting minerals or critical raw materials used during production?	No	Yes	No	No
3.2	What is the impact of the new material or product compared to the conventional material or product on the following sustainable development category: Climate change mitigation & energy conservation? <a href="#">(Click on this cell for more information)</a>	Equal	Equal	Positive	Positive
3.3	What is the impact of the new material or product compared to the conventional material or product on the following sustainable development category: Circular economy? <a href="#">(Click on this cell for more information)</a>	Negative	Unknown	Unknown	Unknown
3.4	What is the impact of the new material or product compared to the conventional material or product on the following sustainable development category: Resource efficiency? <a href="#">(Click on this cell for more information)</a>	Unknown	Unknown	Unknown	Unknown
3.5	What is the impact of the new material or product compared to the conventional material or product on the following sustainable development category: Pollution reduction? <a href="#">(Click on this cell for more information)</a>	Equal	Equal	Negative	Negative
3.6	What is the impact of the new material or product compared to the conventional material or product on the following sustainable development category: Water protection? <a href="#">(Click on this cell for more information)</a>	Negative	Equal	Positive	Positive
3.7	What is the impact of the new material or product compared to the conventional material or product on the following sustainable development category: Biodiversity protection? <a href="#">(Click on this cell for more information)</a>	Equal	Equal	Equal	Equal
3.8	What is the impact of the new material or product compared to the conventional material or product on the following sustainable development category: Health safety? <a href="#">(Click on this cell for more information)</a>	Equal	Unknown	Unknown	Unknown
<b>4: Economic performance</b>					
4.1	Is the marketability of the new material or product better or equal to the benchmark due to, for instance, improved or new functionality or a clear image advantage? <a href="#">(Click on this cell for more information)</a>	Yes	No	No	No
4.2	Is the foreseen production tonnage of the new material or product ≥ 1 tonne per year? Calendar year is from 1 Jan to 31 Dec.	No	Yes	No	No
4.3	Is the foreseen market potential of the new material or product ≥ 1M€ in Europe?	Unknown	Unknown	Yes	Yes
4.4	Is the (expected) purchase price per unit of the new material or product lower or equal to the benchmark?	No	No	Yes	Yes
4.5	Are the capital expenditures and operational costs (e.g. maintenance, energy use) during the production and/or use phase of the new product or application lower or equal to the benchmark?	No	Yes	No	No
4.6	What is the aggregated probability of success to manufacture of the new product on a commercial scale?	>50%	10% to 50%	<10%	<10%
<b>5: Social</b>					
5.1	Compared to the benchmark, does the new material or product development lead to the <b>deterioration</b> of basic rights & needs of the workers, consumers, including children, and on the local community? <a href="#">(Click on this cell for more information)</a>	No	No	No	No
5.2	Compared to the benchmark, does the new material or product development lead to an <b>improvement</b> in creating new jobs, development of new skills, knowledge and employability, society's economic/technologic/sustainable development?	Yes	No	Unknown	Unknown
5.3	Compared to the benchmark, does the new material or product development <b>allow</b> for fair competition, good supplier relationships and respect of intellectual property rights?	No	Yes	Yes	Yes
5.4	What is the impact on the following sustainable development category: zero hunger? <a href="#">(Click on this cell for more information)</a>	Unknown	Equal	Positive	Positive

Topic	Alternative 1	Alternative 2	Alternative 3
Release of hazardous substances			
CLP limit exceeded			
Upcoming regulation relevant substances			
HAZARD			
Applicability			
Dust or aerosol generation			
Persistent fibres			
Multi-component			
Vapour release			
Substantial material breakdown			
Skin (in)direct contact			
Workplace exposure measures			
Oral consumer exposure			
EXPOSURE and RELEASE			
Non-sustainable renewable or critical raw materials or conflicting minerals			
Climate change & energy			
Circular economy			
Resource efficiency			
Pollution reduction			
Water protection			
Biodiversity			
Health safety			
ENVIRONMENT			
Marketability			
Production tonnage			
Financial market potential			
Expected purchase price			
Capital expenditures and operational costs			
Probability of success			
ECONOMY			
Human basic rights and needs			
New jobs, knowledge and skills			
Fair competition and IP rights			
Zero hunger			
SOCIAL			

Corresponding questions	SCORE	Alternative 1	Alternative 2	Alternative 3
3.1 and 1.2	C--		Strong negative	
1.3 and 5.1	C-	Negative		Maybe Negative
3.2 to 3.8 and 5.4	B			
5.2 and 5.3	A+			
5.2 and 5.3	A++			Maybe strong positive
Conclusion to be written by the SSbD expert in charge of the assessment				
Points of attention!!				
Human and/or environmental exposure to hazardous substances used or released the Unknown				
Uncertain potential exposure to released forms and components of the material, while Human exposure via inhalation and environmental release likely Human and environmental exposure to transformed and/or released forms likely				
Dermal occupational and/or consumer exposure is uncertain				
Potential economic performance or economic opportunities are uncertain due to unknown Economic performance might suffer or limited economic opportunities due to high potential Economic performance might suffer or limited economic opportunities due to high potential				



# Tier 1 clustering (pre-Tier 1 approach)



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